

Office Action Summary

Application No.

09/930,603

Applicant(s)

Rhoads

Examiner

Cheuk-fan Lee

Group Art Unit

2622

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 8-15-01
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-14 is/are pending in the application.
Of the above claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 4-6 is/are allowed.
- ☒ Claim(s) 1, 3, 7, and 9-14 is/are rejected.
- ☒ Claim(s) 2 and 8 is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☒ received in Application No. (Series Code/Serial Number) 09/099,864 (parent application)
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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1. Claims 1-14 are pending. Claims 1, 4 and 7-13 are independent.
2. The specification is objected to because the continuation data is partly incorrect. On top of page 1, the filing date for patent application serial number 09/099,864 is June 18, 1998, not 2001. The application 09/099,864 has been patented with Patent No. 6,320,680.
3. Claims 8 and 10 are objected to because of minor errors.
In claim 8, line 2, after "comprising", ",", should be -- : --.
In claim 10, line 4, after "comprising", ",", should be -- : --.
line 8, " : "y" " should read -- "y" --.
4. Claim 3 is objected to because "a detection element" should refer to "a linear array of detection devices" of claim 1.
5. Claims 1 and 3 are rejected under 35 U.S.C. 112, second paragraph as being indefinite.
The claims recite "in order to reduce Moiré patterns". The claims are considered incomplete because the claimed invention does not include all steps or functions or features which are necessary to reduce Moiré patterns. The necessary step(s), function(s), or feature(s) according to the disclosed invention include vibrating the linear array in the main scanning direction following a pseudo random pattern of motion (in the subscanning direction which is

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perpendicular to the main scanning direction). According to the disclosure of the invention, without the application of the/a pseudo random pattern, Moiré patterns are not reduced.

6. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

7. Claims 7, 10 and 12 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 3, 6 and 11 of prior U.S. Patent No. 6,320,680. This is a double patenting rejection.

Claims 7, 10 and 12 are identical to claims 3, 6 and 11 of the patent, respectively.

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8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 9, 11, 13, and 14 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5, 8, 15, and 16 of U.S. Patent No. 6,320,680. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following:

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Claim 9 claims the limitations of claim 5 of the patent, except that boarder terms are used in claim 9. Specifically, claim 9 recites a linear array of "photo-sensors", whereas the patent claim 5 recites a linear array of "charge-coupled devices (CCD)"; claim 9 recites vibrating the linear array in a direction "non-aligned" with the first direction, whereas patent claim 5 recites vibrating the linear array in a direction "perpendicular to" the first direction.

With regard to the difference between the "photo-sensors" of claim 9 and "CCD" of patent claim 5, there are more than one type of photo-sensors used in document scanners, among which CCD is one type. One of ordinary skill in the art would have realize that not only CCDs but also other photo-sensors arranged in a linear array produce electrical signals representing the image of the document being scanned. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a linear array of photo-sensors not limited to CCDs in the scanner to produce electrical signal representing the document image.

With regard to the difference between the "non-aligned" direction of the claim and the "perpendicular" direction of patent claim 5, in case the direction in which the linear array is vibrated is a direction not exactly perpendicular to the first direction (sub-scanning direction of the scanner) but a direction a little erected from the direction perpendicular to the first direction due to mechanical errors or part displacement after long time use of the scanner, or simply a direction substantially perpendicular to the first direction, a person of ordinary skill in the art would have realized that the method of vibrating the linear array still produces an image with reduced Moire patterns. Therefore, it would have been obvious to one of ordinary skill in the art

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at the time the invention was made to apply the method to vibrate the linear array in a direction not exactly perpendicular to the first direction, the direction which is a direction non-aligned with the first direction.

Regarding claim 13, the only difference between the claim and the patent claim 15 is difference between the term “non-aligned” of claim 13 and “perpendicular” of patent claim 15. This difference has been discussed for claim 9 above. The same reasoning applied to claim 9 applies to the rejection of claim 13.

Claim 14, which depends upon claim 13, recites limitation that is identical to the limitation recited in patent claim 16 which depends upon patent claim 15 discussed above.

Regarding claim 11, the claim recites almost all limitations of patent claim 8, except the limitations “each of said detectors covering a first distance” and “generating an image from said detectors which has pixels values equal to said first distance”, and except the word “perpendicular”. According to In re Karlson, 136, USPQ 184 (CCPA 1963), omission of the mentioned two limitations from the patent claim 8 invention is an obvious expedient if the remaining elements perform the same functions as before. In this case, omitting the generating an image from the detectors which has values equal to the first distance which is covered each of the detectors is an obvious expedient since the remaining element (means) perform the same function as before, which is vibrating the linear array of detectors in a direction non-aligned with the first direction, the vibrating being in accordance with a pseudo random pattern of motion, whereby Moiré patterns are reduced. Therefore, it would have been obvious to one of ordinary

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skill in the art at the time the invention was made to omit the limitations of patent claim 8, i.e., “each of said detectors covering a first distance” and “generating an image from said detectors which has pixels values equal to said first distance”.

Further regarding claim 11, instead of using “perpendicular to the first direction” to describe the direction in which the linear array is vibrated, claim 11 recites “non-aligned to the first direction”. Please refer to the discussion of claim 9 with respect to the terms “perpendicular” and “non-aligned”.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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11. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Mizumoto et al. (U.S. Patent No. 6,115,147).

For the purpose of this rejection, the claimed phrase "in order to reduce Moiré pattern" is not given patentable weight since the claimed step, when performed, does not produce an image with reduced Moiré pattern because, in order to reduce Moiré pattern in an image, the disclosed invention features including vibrating the linear array of sensor in a direction perpendicular to the first direction (in which the sensor is moved to scan the document) in accordance with a predetermined pseudo random pattern must be claimed. If the phrase "in order to reduce Moiré pattern" were given patentable weight, the claim would have to be rejected under 35 U.S.C. 112, second paragraph as being indefinite because the claim is incomplete since a scanner performing the only claimed step does not reduce Moiré pattern.

Regarding claim 1, Mizumoto et al. discloses an image reading apparatus and a method of scanning a document using a linear array of sensors where the sensors are arranged in the main scanning direction of the apparatus. The linear array of sensors are moved in a subscanning direction (first scanning direction) to scan a document. The linear array is displaced by a piezoelectric device (70) in the main scanning direction perpendicular to the subscanning direction (first direction) in accordance with a predetermined pattern (Figs. 27-29, col. 29, line 39 - col. 31, line 65, see col. 19, lines 20-45, too). The predetermined pattern is made up of the successive displaced distances $M=0$, $M=p/2$, $M=p/3$, ..., where p represents the pitch between the centers of adjacent ones of photoelectric transducer (sensor) pixels (col. 30, lines 20-22).

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Regarding claim 3, Mizumoto et al. also discloses that “[w]hile the line sensors ... are displaced by the $2/3$ pixel in the above embodiment, the line sensors ... may be displaced a distance different from the $2/3$ pixel insofar as the distance is smaller than the distance between adjacent photoelectric transducer elements” (col. 19, lines 20-45). The distance or displacement $1/3$ pixel is a distance small than the distance between adjacent photoelectric transducer elements, which distance is a magnitude of the vibration (displacement) that is less than half the width of a detection element as claimed.

12. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claim 8 would be allowable if rewritten to overcome the objection(s) set forth in this Office action.

14. Claims 4-6 are allowed.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee at telephone number (703) 305-4867.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist at telephone number (703) 305-3900.

Any response to this action should be mailed to:

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Commissioner of Patents and Trademarks
Washington, DC 20231

or faxed to:

(703) 872-9314 (for formal communications intended for entry)

(703) 308-5397 (for informal or draft communications, such as proposed
amendments

to be discussed at an interview; please label such communications

"PROPOSED"

or "DRAFT")

or hand-carried to:

Crystal Park Two
2121 Crystal Drive
Arlington, VA
Sixth Floor (Receptionist)

C. L.
Sept. 12, 2002


Cheukfan Lee